What is Claimed is:

1. A finish for glass fiber fabrics that are used with epoxy resins in the manufacture of reinforced epoxy resin laminates and like articles, said finish comprising:

a) at least one cationic amino-functional alkoxysilane coupling agent; and,

b) a weak acid for complexing with the amine function of said agent and thereby providing a latent reactivity with epoxy resins during lamination under heat and pressure, whereby said finish selectively provides a longer resin flow time and slower increase of resin viscosity within the capillaries of said multi-filament yarns before the resin gels when compared to the flow time and viscosity increase of the free resin between the yarns in the fabric and on the fabric surfaces between plies of said fabric reinforced articles.

2. The finish of claim 1 including a second alkoxysilane-coupling agent having a critical surface tension greater than that of the epoxy resin with which it is used to promote resin wetting of the finished fabric.

3. The finish of claim 2 wherein said finish has an excess of weak acid, said excess being a predetermined quantity sufficient to complex with the catalyst in the selected epoxy resin formulation thereby extending the melt flow, rate of viscosity increase, and gel time of the epoxy in contact wit the finish within the yarn capillaries.

4. The finish of claim 3 including three silane coupling agents wherein said coupling agents are:

a) N-(2aminoethyl)-3-aminopropyltrimethoxysilane;

b) N-2-(Vinylbenzylamino)-ethyl-3aminopropyl-trimethoxysilane-monohydrogen chloride

c) 3-chloropropyl-trimethoxysilane, the weak acid being selected from the group consisting of: boric acid, maleic acid, succinic acid or other weak acid.

5. The finish of claim 4 wherein the weak acid is boric acid.

6. A glass fiber fabric having the finish of claim 2.

7. A finish bath for glass fabrics that are used for reinforcing articles formed from epoxy resin articles comprising:

a) water;

b) a cationic coupling agent;

c) a coupling agent for increasing the wetability of said finish; and,

d) a weak acid selected from the group consisting of maleic acid, boric acid, and succinic acid or otherwise weak acid whereby when said fabric is immersed in said bath, removed, and dried, the resulting finish on said fabric will increase resin flow time in the filament of the fabric when used as reinforcement.

8. The finish bath of claim 7 wherein the cationic silane coupling agent is an amino-silane coupling agent.

9. The finish bath of claim 7 wherein the coupling agent for increasing wetability is a chloropropyl-silane

10. The finish bath of claim 7 wherein the wherein the weak acid selected is boric acid.

11. The finish bath of claim 7 wherein boric acid is present in the range of about 0.1% to 5% of the silane coupling agents.

12. A finished glass fabric for reinforcing articles that are formed from epoxy resins, said fabric comprising woven fiberglass fabric having a loading of a finish comprising:

a) silane coupling agents comprising amino-vinyl siloxane, amino siloxane, and chloro-siloxane in substantially equal parts based on their organosilane content; and,

b) boric acid in the range of 0.1 to 5.0% of the combined weight of said silane agents; and,

c) said loading comprising about 0.075% to 0.30% by weight of the dried, cleaned glass fabric to which it is applied.

13. A method of finishing a glass fabric that is used for reinforcing an epoxy resin article comprising the steps of:

a) providing fabric woven from glass fiber;

b) cleaning said fabric to remove sizing and other deposits on the surface of the filaments in the glass fiber;

c) preparing a bath for said fabric comprising water and at least one cationic amino-silane coupling agent.

d) immersing said cleaned fabric in said bath;

e) removing the fabric from the bath and removing excess bath solution;

f) drying the fabric;

g) immersing the finish and dried fabric in a solution of boric acid or other weak acid;

h) drying the fabric.

14. The method of claim 13 wherein the bath comprises at least one additional silane coupling agent, namely, a chloro-silane coupling agent and the boric acid is present in the range from about 0.1% to 5% of the combined weight of said coupling agents.

15. In the method of making fiberglass reinforced epoxy resin articles, the improved steps of:

a) applying a finish to the fiberglass reinforcing fabric, said finish comprising a cationic amino-silane coupling agent and a weak acid;

b) impregnating said finished fabric with a solution of epoxy resin formulated with a curing agent and a catalyst;

c) heating the impregnated fabric to remove the solvent;

d) continuing the heating to reach the desired resin B stage;

e) assembling layers of impregnated B stage fabric in a mold or between press plates;

f) heating the assembly in a press to consolidate and cure an epoxy reinforced article;

g) whereby the flow of the impregnated resin in contact with the finish within the capillaries between the filaments of the yarns making up the fabric is selectively improved compared to the free resin flowing between the yarns and between laminate plies.

16. The method of claim 15 wherein said weak acid is boric acid.

17. The method of claim 15 wherein the resin curing agent of the epoxy is dicyandlamide.

18. The method of claim 15 wherein boric acid is added to the epoxy resin mix to impart latency to the catalyst, and the fabric finish has sufficient excess of boric acid to selectively further enhance the latency and capillary flow of the resin in contact with the finish in the yarn capillaries.

19. A copper clad laminate made by the methods of claim 15.

20. A method of making a fiberglass fabric reinforced epoxy resin article having a substantially reduced number of voids in the capillary spaces between the filaments of the multi-filament yarns of the fabric comprising the steps of:

a) providing a woven fiberglass fabric, said fabric being woven from fiber made from bundles of glass filaments, the interstitial space between said filaments forming a capillary region;

b) cleaning said fabric to remove sizing and other deposits on the surfaces of said filaments;

c) preparing a bath for said fabric, said bath comprising water, at least one cationic amino-silane coupling agent;

d) immersing said fabric in said bath;

e) removing the fabric from the bath and removing excess bath solution;

f) drying the fabric;

g) post treating the fabric with a solution of weak acid and drying it;

h) impregnating said finished fabric with a solution of epoxy resin formulated with a curing agent and a catalyst;

i) heating the impregnated fabric to remove the solvent;

j) continuing the heating to reach the desired resin B stage;

k) assembling layers of impregnated B stage fabric between copper foil face sheets and press plates;

l) heating the assembly in a press to consolidate and cure a copper clad laminate;

m) wherein the flow of the impregnated resin in contact with the finish within the capillaries between the filaments of the yarns making up the fabric is selectively improved compared to the free resin flowing between the yarns and between laminate plies, and the resin substantially fills the capillaries before

curing, thereby reducing or eliminating voids in the cured article.

21. The copper clad laminate made by the method of claim 20.

22. The method of claim 20 wherein the bath for the fabric includes a chloroakyl-silane in addition to the cationic amino-silane and boric acid.

23. In the method of making a fiberglass reinforced epoxy resin article, the improvement which comprises providing a latent catalyst inhibitor on the surface of the filaments of the multi-filament yarns of a woven fabric.

24. A method for predicting change in resin flow and gel time of a thermosetting polymeric resin in the capillary spaces of glass fiber yarns comprising a woven fabric due to the finish applied to said fabric and individual filaments within the yarns comprising the steps of:

a) providing a multiplicity of cleaned glass microbeads;

b) dividing said microbeads into at least two equal groups;

c) impregnating a first group of microbeads with said thermosetting resin;

d) heating said impregnated microbeads to a predetermined temperature;

e) measuring the time of the polymer to gel at said temperature with said first microbeads;

f) apply a finish to microbeads in a second group;

g) impregnating said second group of finished microbeads with an equal amount of said thermosetting resin;

h) heating said second group of impregnated finished microbeads to said predetermined temperature;

i) measuring the time of the polymer to gel at said predetermined temperature with said second group of finished microbeads; and,

j) comparing the respective times to gel to determine the increase or decrease in gel time due to said finish.

25. The method of claim 25 wherein the thermosetting resin is an epoxy resin.